## REMARKS

Claims 1-23 and 34-38, and 40-50 are currently pending in the Office Action, of which claims 1, 11, 18, 35-36 and 40-41 are in independent form.

Claims 1, 7, 11, 18, and 40-41 are currently amended. No additional claims are canceled by this Reply, and new claims 49-50 are added.

**Claim Rejections under 35 U.S.C. § 112, first paragraph**

The Office Action rejects claims 1-23 under 35 U.S.C. §112, first paragraph. The Office Action acknowledges that the specification supports storage of illumination durations which correspond to possible "types of images", but asserts that stored illumination durations are not disclosed to correspond to "genres" of images, as claimed. For the same reason, presumably, the Office Action further asserts that control of illumination duration of a backlight cannot be based on a detected "genre" of image according to a stored illumination duration which corresponds to the detected genre.

The rejections appear to be based on a subjectively narrow interpretation of the term "genre". The specification clearly indicates that "[c]ontrol CPU 10 analyzes [program information and/or contents information (including genre information)] so as to detect and determine the type of the content of the image to be displayed .... Here, the types of contents indicate the categories such as sport, drama, news, animation, game, etc." (*See* specification, page 28, line 20 to page 29 line 8.) In the Examiner Interview held April 15, 2009, the examiner expressed that the term "type of content" alone was too broad alone. The term "genre" was an attempt to refine the scope of information detected and that is associated with illumination durations.

The Applicants do not necessarily agree that the term or meaning of "genre" as used in the claims is not disclosed, at least implicitly, in the specification. However, in an attempt to advance prosecution, the claims are amended to revert to the "type of content" term in conjunction with claim language specifying, as is well supported in the specification, that "the detected type of content [is] based on a classification defined in electronic program information".

Applicants believe this language would be understood by one of skill in the art to define the scope of the information detected and associated with illumination durations later in the claims.

Moreover, even without the claim language bounding the scope of "type of content", that term should be given its "broadest reasonable interpretation in light of the specification. ... This means that the words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification." MPEP 2111.01(I). In the present case, the specification prescribes a particular meaning to "type of content", and the interpretation of "type of content" applied in previous office actions is therefore "inconsistent with the specification".

Moreover, the specification plainly discloses that illumination durations may be retrieved from a memory device "in which impulse ratio information is stored beforehand for every type of image contents." (Page 29, lines 4-6.)

Accordingly, Applicants respectfully request withdrawal of the §112 rejection and reconsideration of claims 1-23.

**Claim Rejections under 35 U.S.C. § 103(a)**

The Office Action rejects claims 1-23, 34-38 and 40-48 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 2002/0067332 issued to Hirakata (hereinafter "Hirakata") in view of U.S. Patent No. 7,151,572 issued to Shirahama (hereinafter "Shirahama"). (Note: The Office Action indicates rejection of claim 39, which was previously canceled. The rejection of claim 39 is thus assumed to be a typographical error.)

Independent **claim 1** recites, in part:

> ... a section that detects a type of content of an image to be displayed on a liquid crystal display panel, based on information other than the image signal to be displayed, the detected type of content being based on a classification defined in electronic program information; [and]
>
> a section that variably controls the illumination duration of a backlight within one frame based on the detected type of content of the image according to the stored illumination duration which corresponds to the detected type of content of the image ....

The Office Action asserts that these features are disclosed by a combination of features from Hirakata and Shirahama. Shirahama discloses "an obtaining unit operable to obtain [from

service information included in the transport stream] information related to [a] selected program, and a setting unit operable to set a control parameter for controlling an image data display ... in accordance with the related information." (Col. 1, lines 61-67.)

Hirakata discloses four lighting-and-extinguishing modes for driving a backlight lamp according to a determination that a corresponding image signal is a) a still image, b) a motion picture image with slow movement, c) a motion picture image with normal movement, or d) a motion picture image with fast movement. (*See* ¶¶[0270]-[0275]; Figs. 1B-1E.) Each mode appears to provide a different duty cycle for a lamp-driving signal. However, combination of Hirakata's means for changing a duty cycle of a backlight lamp in combination with Shirahama's obtaining of "information related to a program" does not, without more, result in the above-identified features of the present claims. The mere existence of allegedly-related limitations in prior art references does not render their combination as obvious, particularly when two or more limitations must be combined in a manner not disclosed by or made obvious in view of the applied references. Neither Hirakata nor Shirahama provides details (or hints) of how the asserted limitations may be combined. It is not clear, for example, that one of ordinary skill in the art would have considered Hirakata's four duty cycles to be "control parameters" that could be associated with Shirahama's obtained genre information.

Moreover, claim 1, as amended, further recites:

> wherein ... the stored plurality of predetermined illumination durations are set in such a manner that
>
> for a detected type of content of an image that entails a large amount of motion blur, the corresponding illumination duration is decreased within the one frame period, and
>
> for a detected type of content of an image that entails a small amount of motion blur, the corresponding illumination duration is increased within the one frame period.

Hirakata and Shirahama, alone or in combination, fail to disclose that an illumination duration corresponds to an amount of motion blur of a type of content. Although Shirahama discloses control parameters that may affect brightness, sharpness, color temperature, noise reduction, velocity modulation, gamma correction, and scanning mode, (*see* Figs. 5A, 5B; col. 5, lines 31-55), none of these parameters necessarily corresponds to illumination durations, and

none are necessarily provided to a backlight as Hirakata's "modes" are. Even if Hirakata's four illumination duration modes could be combined with Shirahama's device (not conceded), the references do not disclose or suggest a correlation between the illumination durations and a type of content (as understood in view of Shirahama), much less a correlation that would increase or decrease the illumination duration according to a particular type of content. The references do not acknowledge motion blur injury or provide a means of addressing such.

Accordingly, independent claim 1, as amended, is believed to be in condition for allowance. Claims 2-10 depend from claim 1 and are therefore believed to be in condition for allowance for at least the same reasons as their base claim.

Independent **claims 11, 35, and 36** variously recite, in part:

> ... a section that variably controls the duration in which a black display signal is supplied to the liquid crystal display panel based on [the detected type of content of the image according to the stored illumination duration which corresponds to the detected type of content of the image, or the user's instructional input] ....

As discussed above for claim 1, neither of the applied references discloses variable control of a duration in which a black display signal is supplied to the liquid crystal display panel. Hirakata varies only backlight-driving signals, and Shirahama controls the display "in accordance with ... control parameters" which are not disclosed to include a "duration in which a black display signal is supplied to a liquid crystal display panel". Hirakata does disclose that "in performing screen scanning in plural times, the scanning is performed such that the screen becomes a black display in one screen scanning." (¶[0128].) However, without more, it seems clear that Hirakata does not contemplate variable control of a black display signal duration. Divining the presently claimed invention(s) from the two applied references would require at least (impermissible) hindsight.

Accordingly, independent claims 11, 35, and 36, and their dependent claims 12-17, 34, 37-38, and 44-46, are believed to be in condition for allowance.

Similarly, independent **claims 18, 40, and 41** recite, in part:

> ... a section that variably controls a ratio of display duration of the image signal in one frame period, based on the detected type of content of the image

according to the stored illumination duration which corresponds to the detected type of content of the image ....

For much the same reasons as given above for claims 11, 35 and 36, the applied references do not disclose the above-noted feature. Hirakata does not control a ratio of display duration in one frame period, but instead varies a backlight-driving signal. (I.e., the backlight and display are separately driven and may have different durations.) Shirahama does not remedy Hirakata's deficiencies, as Shirahama also does not disclose variable control of a ratio of display duration, whether based on a detected type of content or otherwise. The various disclosed "control parameters" do not include a ratio of display duration. Since the two references, alone or in combination, fail to disclose every feature of claims 18, 40, and 41, these claims, and claims 19-23, 42-43, and 47-48 which depend therefrom, are believed to be in condition for allowance.

Independent claims 35, 36, 40, and 41 further include features in which either gray scale levels of the input image signal or gray scale voltages applied to the liquid crystal display panel are varied. Hirakata's device varies only illumination signals directed to a backlight. Backlight-driving signals are not known to include gray scale levels or gray scale voltages, particularly of an input image signal or as applied to a liquid crystal panel. Shirahama does not remedy the deficiency of Hirakata, as Shirahama discloses only that a "control parameter" may change depending on information obtained from a signal. It is not reasonable, without (impermissible) hindsight or additional information not provided by the presently applied references, to include in Shirahama's "control parameters" a gray scale level of a signal or a gray scale voltage applied to a display.

For the reasons discussed above, claims 1-23, 34-38, and 40-48 are believed to be in condition for allowance. Withdrawal of the rejections and reconsideration of the claims are respectfully requested.

**New Claims**

Claims 49-50 are newly presented and include features similar to the amendment to claim 1. In addition to their dependence from claims believed to be in allowable condition, the subject

matter of these claims is believed to be distinct from the prior art as explained above for claim 1. Consideration and allowance are respectfully requested.

**Conclusion**

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact James C. Larsen Reg. No. 58,565 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: October 30, 2009

Respectfully submitted,

By _____

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